LABORATORY FOR

ATMOSPHERES

Section 2

2. Philosophy

The philosophy of the Laboratory is characterized by:

- carrying out high quality research;
- balancing a scientist's research and programmatic responsibilities;
- enhancing interactions with the academic community, other NASA centers, and federal laboratories;
- supporting Project Scientists who represent the scientific interests of the outside community in NASA's mission; and
- reaching out to the general public, thereby nurturing their interests in atmospheric science.

Quality

The Laboratory places high importance on measuring and promoting quality in its scientific research. About 95% of the work in the Laboratory is funded through a peer review process. The overall quality of the scientific efforts of the Laboratory is evaluated periodically by three standing committees of advisors from the external scientific community. Section 9 contains information on the present membership of these committees.

Balance

It is the nature of our Laboratory to have some relatively large programs often focused on sizable satellite missions or observational campaigns with many associated scientists. This environment is unlike that at most universities. A management goal of the Laboratory is to assure a proper balance between the programmatic needs of large projects and the need for individual scientists to maintain an active research agenda. This balance allows each member of the Laboratory to improve their scientific credentials.

Interactions with the Academic Community

The Laboratory depends on support from universities to achieve its goals. Such cooperation makes the best use of the capabilities of Government facilities and those of academic institutions and assists in the education of new generations of scientists and engineers. Education programs include summer programs for faculty and students, graduate research fellowships, and postdoctoral associateships. The Laboratory frequently supports workshops on a wide range of scientific topics of interest to the academic community (see Section 10 for a list of recent workshops). NASA and non-NASA scientists work together on NASA missions, experiments, and instrument and system developments. Likewise, several Laboratory scientists work on programs residing in universities or other federal agencies. The facilities, large data sets, and software developed within the Laboratory are routinely made available to the outside community. The list of refereed publications, Section 7, is an indication of the intense scientific interactions with the outside community: 71% of the publications involve co-authors from other institutions.

Prime examples of collaboration with the academic community in which the Laboratory is involved include these recently established cooperative agreements with universities:

- the Joint Center for Earth System Science (JCESS) with the University of Maryland at College Park;
- the Joint Center for Earth System Technology (JCET) with the University of Maryland at Baltimore County;
- the Joint Center for Geoscience (JCG) with the Massachusetts Institute of Technology;
- the Joint Center for Observation System Science (JCOSS) with the Scripps Institution of Oceanography, University of California; and
- the Center for Earth-Atmosphere Studies (CEAS) with the Colorado State University.

These joint centers are designed to increase the scientific interactions between the Earth Sciences Directorate at Goddard and the faculty and students at participating universities.

University and other outside scientists visit the Laboratory for periods ranging from one day to as long as two years (see Section 11 for list of recent visitors and Section 12 for seminars). Some of these appointments are supported by Resident Research Associateships offered by the National Research Council (NRC) of the National Academy of Sciences, and by the Visiting Scientists and Visiting Fellows Programs currently managed by the Universities Space Research Association (USRA). Visiting Scientists are appointed for up to two years and carry out research in pre-established areas; Visiting Fellows are appointed for up to one year and are free to carry out research projects of their own design. A list of NRC Research Associates, USRA Visiting Scientists, Visiting Fellows and associates of the Joint Institutes during 1996 is given in Section 13.

Interactions with NASA Centers and Federal Laboratories

The Laboratory maintains strong, productive interactions with NASA centers and federal laboratories. The ties with the NASA centers serve to broaden our knowledge base: they allow us to complement each other's strengths thus increasing our competitiveness, while minimizing a duplication of efforts. They also increase our ability to reach the agency's scientific objectives. Interactions with other federal laboratories result in activities that are synergistic with those funded by NASA Headquarters. The interactions are particularly strong in the area of ozone research, radiation and data assimilation studies, water vapor and aerosols measurements, ground truth activities for satellite missions, and operational satellites.

Project Scientists

A special position exists in NASA to help carry out spaceflight missions. The Project Scientist and the Project Manager are the principal leaders of the Project. The Project Scientist must provide continuous scientific guidance to the Project Manager, must lead a science team, and is the interface between the Project and the scientific community at large. In addition, the function of the Project Scientist provides a unique opportunity for scientific management experience. Typically the Laboratory invites candidates from the senior ranks to fill these roles. Project and Deputy Project Scientists are listed in Table 1.

Project Scientists	
Name	**Project**
Pawan K. Bhartia	EOS CHEM
Pawan K. Bhartia	TOMS
Dennis Chesters	GOES
Yoram Kaufman	EOS AM
Mark R. Schoeberl	UARS
Joel Susskind	POES
Warren J. Wiscombe	GSFC/DAAC
Deputy Project Scientists	
Name	**Project**
Anne R. Douglass	UARS
Charles H. Jackman	UARS
Christian D. Kummerow	TRMM
EOS Validation Scientist	
Name	**Project**
David O'C. Starr	EOS
Aircraft Campaign Co-Project/ Mission Scientists	
Name	**Project**

Yoram Kaufman	TARFOX
Paul A. Newman	STRAT
Paul A. Newman	POLARIS
Mark R. Schoeberl	TOTE/VOTE
David O'C. Starr	SUCCESS
Si-Chee Tsay	TARFOX

Table 1

Outreach

Members of the Laboratory interact with the general public to support a wide range of interests in the atmospheric sciences. The Laboratory raises awareness of atmospheric science through public lectures and demonstrations, making available scientific data of general interest, mentoring students and teachers, teaching, etc. A summary of the Laboratory's outreach activities during 1996 is found in Section 6.

(Return to Table of Contents)

(Go on to Section 3)

Send E-mail to the maintainer of this page.(rumburg@dao.gsfc.nasa.gov)
Responsible NASA official: Bob Theis